DOCUMENT RESUME

ED 345 656 HE 025 552

AUTHOR Menec, Verena H.; And Others
TITLE Enhancing the ABCs (Affects, Behavior, Cognitions) in College Students: An Attributional Retraining and Instructional Perspective.
PUB DATE 24 Apr 92
NOTE 30p.; Paper presented at the American Educational Research Association Conference (San Francisco, CA, April 20-24, 1992). For related document, see HE 025 551.
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; Achievement Tests; Attribution Theory; College Students; Foreign Countries; Higher Education; *High Risk Students; Instructional Effectiveness; Lecture Method; Locus of Control; Performance; *Retraining; Student Characteristics; *Student Improvement; *Teacher Effectiveness; Videotape Recordings

ABSTRACT

This paper presents a study that examined the effect of an attribution induction on students' performance on a subsequent achievement test. The study was conducted to determine whether an instructor might inculcate desirable attributions as part of a regular classroom interaction and thus improve academic performance in at-risk students. College students (N=263) at the University of Manitoba (Canada) were informed that either effort, ability, or test difficulty was the primary determinant of their performance on a test. They then viewed a videotaped lecture presented by either a low or high expressive instructor. Following this, they wrote an achievement test based on the lecture content. Results showed that with low expressive instruction, effort attributions enhanced achievement, but only for students who perceived themselves as successful on the first test. Attributions did not affect the performance of less successful students when instruction was ineffective. Moreover, high expressive instruction improved achievement with students performing well regardless of the attributions induced. It was concluded that it may be useful to consider attributional retraining as part of regular teaching activities. Contains 19 references. (Author/GLR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED345656

Enhancing the ABCs (Affects, Behavior, Cognitions) in College Students: An Attributional Retraining and Instructional Perspective

Paper presented at the
American Educational Research Association Conference
April 24, 1992
San Francisco

Verena H. Menec, Raymond P. Perry, C. Ward Struthers,
Dieter J. Schonwetter, & Frank J. Hechter

University of Manitoba,
Winnipeg, Mb., CANADA

Correspondence concerning this article should be addressed to Verena H. Menec, Department of Psychology, University of Manitoba, Winnipeg, Canada, R3T 2N2.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Verena Menec

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HE 025 552

BEST COPY AVAILABLE

ABSTRACT

Attributional retraining interventions have traditionally been conceived of as structured, therapy-like interventions, administered outside the classroom. An alternative strategy, however, may be to simply communicate certain attributions to students in the classroom. In the present study, we examined the effect of an attribution induction on students' performance on a subsequent achievement test. College students were informed that either effort, ability, or test difficulty was the primary determinant of their performance on a test. They then viewed a videotaped lecture presented by either a low or high expressive instructor. Following this, they wrote an achievement test based on the lecture content. Results show that with low expressive instruction, effort attributions enhanced achievement, but only for students who perceived themselves as successful on the first test. Attributions did not affect the performance of less successful students when instruction was ineffective. Moreover, high expressive instruction improved achievement, with students performing well regardless of the attributions induced. It is concluded that it may be useful to consider attributional retraining as part of regular teaching activities.

ENHANCING THE ABCs (AFFECTS, BEHAVIOR, COGNITIONS) IN COLLEGE STUDENTS: AN ATTRIBUTIONAL RETRAINING AND INSTRUCTIONAL PERSPECTIVE

Research attests to the benefits of effective teaching for students' motivation and academic achievement (Feldman, 1989; Murray, 1991; Perry, 1991). Such research indicates that effective teaching can be defined in terms of specific teaching behaviors, such as organization, clarity, or expressiveness. Feldman (1989), for example, found that students perform better in courses taught by organized instructors. Similarly, experimental studies show that expressive instruction enhances students' motivation and achievement (Perry, 1991). However, there may be other activities instructors can engage in that may benefit students. The literature on attributional retraining suggests that inducing adaptive attributions can improve students' performance (e.g, Wilson & Linville, 1982; 1985). In an analogous fashion, an instructor might inculcate desirable attributions as part of regular classroom interaction. The purpose of the present study was to examine this issue by combining an attributional retraining induction with quality of instruction.

Attributional Retraining

Attributional retraining is based on the premise that attributions for the cause of achievement outcomes influence students' subsequent motivation and, as a result, performance on future tasks. Several attribution models posit such attribution-achievement linkages, including Weiner's (1985, 1986) attribution theory, Bandura's (1982) self-efficacy model, and learned helplessness theory (Abramson, Seligman, & Teasdale, 1978). Weiner's (1985, 1986) attribution theory is particularly useful since it makes

specific predictions about how attributions affect emotions and expectations and how these, in turn, influence achievement motivation.

According to Weiner's model, attributions can be categorized along three underlying dimensions, namely locus of causality, stability, and controllability. Locus differentiates between causes that are internal versus those that are external to the individual. Stable causes are relatively permanent, whereas unstable ones vary over time. Lastly, the controllability dimension identifies causes that are under an individual's control versus those that are not. According to this taxonomy, an attribution to ability, for example, might be classified as internal, stable, and uncontrollable, whereas effort may be considered internal, unstable, and controllable.

The theory further predicts that each of the dimensions is associated with specific emotions. In addition, the stability dimension is linked with expectations of future success. The emotions and expectations evoked by causal attributions jointly contribute to motivated behavior. More specifically, attributing failure to internal factors should lead to lower self-esteem than external attributions, while attributions to stable causes lead to lower expectations than unstable ones. Thus, the student who performs poorly on a test or examination and attributes this outcome to lack of ability may experience lowered self-esteem and reduced expectations for success in the future. Self-esteem deficits and decreased expectations would then undermine future achievement striving, with possible consequences including reduced studying efforts, absenteeism, or even drop-out. In contrast, while a lack of effort attribution for failure is also predicted to decrease self-esteem, the student should retain higher

expectations of future success, to the extent that effort is perceived as unstable, and motivational deficits should be less severe. An external cause, such a test difficulty, on the other hand, should maintain self-esteem and, consequently, achievement motivation.

Attributional retraining is designed to change attributions that are potentially detrimental to more adaptive ones. Attributional retraining studies involving college students show that single, brief interventions can improve academic achievement. In a study by Perry and Penner (1990), for example, half of the subjects viewed an 8-minute attribution videotape which stressed the importance of attributing failure to lack of effort, and success to ability and effort. All students then observed a half-hour videotaped lecture, presented by either a high or a low expressive instructor. Subjects were also differentiated in terms of internal versus external locus of control. One week later, they wrote an achievement test based on the lecture content. Results show that, relative to the control group, attribution retraining improved students' performance, although such an effect was found only for subjects with an external locus of control. Other studies, including several field experiments, further show that attributional retraining has both positive short-term and long-term consequences (Jesse & Gregory, 1986-87; Van Overwalle & De Metsenaere, 1990; Van Overwalle, Segebarth, & Goldchstein, 1989; Wilson & Linville, 1982; 1985).

Teaching as Attributional Retraining

Similar to clinical interventions, attributional retraining interventions have traditionally involved multiple sessions, focusing on individuals who exhibited some maladaptive behavior, such as learned helplessness (Dweck, 1975) or hyperactivity (Reid & Borkowski, 1987). Studies with college students have deviated from this approach by providing single, brief retraining interventions, sometimes administered to all students in a given class (Van Overwalle & De Metsenaere, 1990). An alternative approach is to consider attributional retraining as part of regular teaching activities (Perry, Hechter, Menec, & Weinberg, 1992). For example, the instructor who tells students: "Everybody who studies hard enough will do well on this test" or "You all have the ability to do well in this course" effectively engages in a casual form of attributional retraining. The purpose of such statements, as in the case of the more traditional, structured attributional retraining programs, is to induce more adaptive attributions for achievement outcomes.

Many instructors probably communicate causal attributions to students - frequently, however, inadvertently, unsystematically and without considering potential detrimental consequences. It is therefore important to investigate the effects of providing such attributional information. One question that arises is whether inducing attributions on one task will generalize to and improve achievement on subsequent tasks. Moreover, it is important to identify the attributions that benefit students the most. In the present study, we investigated the potential benefits of informing students that either effort, ability, or test difficulty was the major determinant of their performance on a test on their achievement on a subsequent postlecture achievement test.

Effort, ability, and task difficulty attributions were examined because of their prevalence in achievement contexts (Weiner, 1986). Clearly, however, the consequences of these attributions would differ depending on students' performance on a task. For example, while an ability attribution for success should maintain or enhance motivation, it may result in motivational deficits when applied to a failure outcome (Weiner, 1986). Students' perception of their performance was taken into account by assessing how successful they thought they were on the test. Based on this measure, students were then classified into low versus high success groups.

Quality of Instruction

Although research indicates that effective teaching has beneficial effects on college students' motivation and academic achievement (Feldman, 1989; Perry, 1991), students are frequently faced and have to deal with poor teaching. Under these circumstances, attributional retraining might help compensate for the negative effects of ineffective instruction. Recent studies support this idea (Perry & Magnusson, 1989; Perry, Magnusson, Schonwetter, & Struthers, 1992). These studies show that when instruction was ineffective, internal attributions, such as effort, generally enhanced performance. In contrast, students exposed to effective instruction performed equally well, regardless of their attributions. These results suggest that attributions can provide a buffer against the demotivating consequences of poor teaching.

Quality of instruction was added as an independent variable in the present study, resulting in an attribution (effort, ability, task difficulty) by success (low, high) by instructor expressiveness (low, high)

3 x 2 x 2 design. Dependent measures were achievement, attributions, and emotions. The attributional information was transmitted in written form. This is in contrast to previous attributional retraining interventions which have typically involved verbal instructions. The attribution induction was expected to influence achievement differently depending on students' interpretation of their performance. According to Weiner's (1986) attribution theory, effort is typically considered unstable and, as a result, should increase motivation following failure, whereas ability, frequently viewed as stable should reduce motivation. For students who perceived themselves as relatively unsuccessful on the aptitude test, effort attributions were therefore expected to enhance performance, relative to ability ascriptions. In contrast, for subjects who perceived themselves as highly successful, effort, as well as ability attributions were expected to produce higher achievement than task difficulty. Theoretically, ability associated with success should be linked to motivation enhancing emotions, whereas task difficulty is not. It was further hypothesized that these effects would be less likely to emerge with an effective instructor because of the increased motivation produced by effective teaching.

Method

Subjects

The participants were 263 male and female introductory psychology students at the University of Manitoba. They volunteered for the study and received course credit for their participation.

Materials

Causal attributions. The attribution induction was provided in written form, by manipulating the instructions for an aptitude test developed by Perry and Dickens (1984). This test consisted of 50 items, including verbal analogies, quantitative questions, and sentence completion, similar to those found on the Graduate Record Examination. The instructions for the effort induction condition were as follows:

> The Abstract Reasoning and Performance Test (ARPT) has been developed in universities and schools across Canada as a predictor of future success in university. The content of the test is intended to be more appropriate culturally to Canada than other similar tests such as the Scholastic Aptitude Test, Graduate Record Examinations, or Miller's Analogies Test. Although performance on the ARPT is influenced to some extent by a student's intellectual ability, effort has been found to be a major determinant. Thus, a student's score indicates how hard he or she tried on the test.

The instructions were identical for ability and task difficulty groups, except that the underlined sentences were replaced with one of the statements listed below:

> Ability attribution: Performance on the ARPT is determined primarily by a student's intellectual ability and consequently corresponds closely with other measures of intelligence.

> Task difficulty attribution: Although performance on the ARPT is influenced to some extent by a student's ability, the difficulty of the test has been found to be a major determinant. Because there are several versions of the ARPT, a student's score will reflect to a significant degree the difficulty level of the test that he or she received.

Lecture videotapes. Two 25-minute videotaped lectures on the topic of repression were used to manipulate instructor expressiveness. Expressiveness was defined in terms of physical movement, voice inflection, eye contact, and humor. A male professor role played these behaviors, increasing the frequency of each behavior for the high expressive condition

and decreasing their frequency for the low expressive condition. These videotapes have produced reliable effects on students' motivation and achievement in several studies (e.g., Perry & Dickens, 1984; 1987; Perry & Magnusson, 1987).

Dependent measures. Measures pertaining to the aptitude test as well as the achievement test were used in the present study. The aptitude test measures included attributions about students' reactions to the aptitude test: How much ability do you think you have for this kind of test? (0 = none at all; 9 = a great deal); How hard did you try to answer the questions on the test? (0 = did not try at all; 9 = tried my hardest). Feelings of pride and encouragement as a reaction to the aptitude test were also assessed with 10-point scales (0 = ashamed, 9 = proud; 0 = discouraged, 9 = encouraged).

Achievement test measures included a 30-item multiple-choice achievement test based on the lecture. Moreover, the attribution and affect questionnaire was again administered. The questions were identical to those regarding the aptitude test, except that they now concerned reactions to the achievement test.

Procedure

The experiment was conducted in a simulated classroom. Sessions were run in groups of approximately 20 students. Students first wrote the aptitude test. In the instructions they were informed that the performance on the test was primarily determined by either a student's effort, ability, or the difficulty level of the particular test received. Immediately

following the aptitude test, they responded to the attribution and affect measures. The students then viewed either the low or high expressive lecture, presented with an Advent 1000 A videobeam Color Projection Unit, which projected a near life-size image on a 2.2-m diagonal screen. After that, they wrote the achievement test and responded again to the attribution and affect questionnaire.

Results

Aptitude Test Measures

An attribution and emotion questionnaire was administered following the aptitude test. In addition, students were asked how successful they felt after completing the test (0 = not at all successful; 9 = extremely successful). This measure was used to classify them into low (<=4) and high success (>=5) groups, according to a median split. Attributions and emotions were analyzed with separate Attribution (effort, ability, task difficulty) x Success (low, high) 3 x 2 analyses of variance (ANOVAs). Significant main effects and interactions were probed with two-tailed Bonferroni t-tests. Results for attribution measures (ability and effort) and emotions (proud and encouraged) are discussed in turn.

Attribution measures. The main effect for the attribution induction was marginally significant for ability, $F(2,257) = 2.57$, $MSe = 1.94$, $p < .08$, and statistically significant for effort, $F(2,257) = 7.45$, $MSe = 2.51$, $p < .01$ (see Table 1 for means and standard deviations). These effects were probed by comparing attribution induction groups for ability and effort measures, respectively (t critical = 2.39 for 3 comparisons, df = 257, $p < .05$).

Insert Table 1 about here

Students in the effort condition felt they had more ability than those in the ability and task difficulty conditions (Ms = 5.70, 5.32, 5.26, respectively). However, none of these comparisons reached significance (all ts < 2.14). Students in the effort group also thought they had not tried as hard as those in the task difficulty group, t = 3.74, (Ms = 6.05 vs. 6.93). Moreover, students in the ability condition reported trying less hard than task difficulty subjects, t = 2.83, (Ms = 6.24 vs 6.93). In addition, main effects for success were found, in that more successful students felt they had more ability and had tried harder than less successful individuals (see Table 1). The F-value for ability was: $F(1,257) = 99.21$, $p < .01$, and for effort, $F(1,257) = 24.03$, $p < .01$

Emotions. Emotions were also analyzed with Attribution x Success 3 x 2 ANOVAs. The success main effect was significant for pride, $F(1,254) = 237.04$, MSe = 1.90, $p < .01$, and encouraged, $F(1,254) = 134.90$, MSe = 2.35, $p < .01$. Not surprisingly, more successful students felt more proud and encouraged than less successful individuals. The interaction between the attribution induction and success was also significant for pride, $F(2,254) = 4.78$, $p < .01$, and encouraged, $F(2,254) = 4.44$, $p < .05$ (see Table 1 for means). These interactions were followed up by comparing attribution groups for low and high success, respectively (t critical = 2.39 for 3 comparisons, df = 254, $p < .05$). Contrasts for pride indicated that effort attributions led to more pride than ability attributions, t = 3.16, (Ms = 3.34 vs 2.34), but only for low success students. Moreover, subjects in

the effort condition were less encouraged than those in the ability group, t = 2.56, (Ms = 5.39 vs 6.19). In this case, however, this occurred only for high success students.

To summarize, students receiving effort attributions felt they had more ability than the other groups and thought they tried less hard than test difficulty students, although the former effect was not statistically significant. Effort attributions also increased pride for low success students, and decreased feelings of encouragement for high success subjects. Although these results seem somewhat contradictory, they should be interpreted within the context of students' perceptions of success. That is, following poor performance, effort attributions should lead to more positive affect than ability ascriptions since there is the potential for success in the future. In contrast, students who feel successful and attribute their success to ability should experience more positive emotions than individuals who make effort attributions.

Achievement Test Measures

Achievement test. An Attribution (effort, ability, task difficulty) x Success (low, high) x Instructor Expressiveness (low, high) 3 x 2 x 2 ANOVA was computed for achievement scores. (See Table 2 for means and standard deviations.) Main effects were obtained for Success, $F(1,251) = 6.74$, $p < .01$, and instructor expressiveness, $F(1,251) = 29.34$, $p < .01$ (MSe = 15.48). Successful students performed better than their less successful counterparts and high expressive instruction improved achievement scores relative to low expressive instruction.

The Attribution x Success x Expressiveness interaction was also significant, $F(2,251) = 4.01$, $p < .05$ (see Figure 1).

Insert Table 2 and Figure 1 about here

This interaction was further probed by comparing attribution groups for each level of success and expressiveness, resulting in 6 comparisons for low and high expressive instruction, respectively (t critical = 2.64 for 6 contrasts, df = 251, $p < .05$). With low expressive instruction, effort attributions produced better performance than ability attributions for the high success group, Ms = 18.07 vs. 14.85, $t = 2.78$, $p < .05$. For successful students, test difficulty also resulted in higher achievement than ability attributions, although this differences was not statistically significant, $t = 1.92$, (Ms = 17.13 vs. 14.85). Effort and test difficulty groups did not differ from each other. None of the comparisons was significant for the low success groups, whose performance was uniformly inferior (Ms = 14.89, 15.38, and 14.33 for effort, ability, and test difficulty).

With high expressive instruction, effort improved achievement relative to test difficulty for high success students, but this difference was not significant ($t = 1.73$, Ms = 19.14 vs. 17.31). Similarly, ability produced somewhat better performance than test difficulty for successful individuals, ($t = 2.36$, Ms = 20.00 vs. 17.31), although, again, this was not statistically significant. No differences were found between attribution induction groups for low success groups.

Attribution measures. Attribution x Success x Instructor Expressiveness ANOVA revealed significant main effects for expressiveness for ability,

$F(1,250) = 5.20$, $MSe = 2.52$, $p < .05$, and effort, $F(1.251) = 15.93$, $MSe = 4.10$, $p < .01$, indicating that students exposed to a high expressive instructor thought they had more ability and had tried harder than those with a low expressive instructor. The three-way Attribution x Success x Expressiveness interaction for ability was also significant, $F(2,250) = 2.95$, $p = .05$. To probe this interaction, 6 comparisons (t critical = 2.64, df = 250) were performed for low and high expressive conditions, respectively, but only one emerged as significant: Students in the effort condition exposed to high expressive instruction thought they had more ability than those in the test difficulty group, $t = 2.89$, ($Ms = 6.97$ vs 5.73), but only in the case of high success subjects.

Emotions. The Attribution x Success x Instructor Expressiveness ANOVAs produced main effects only for expressiveness for: pride, $F(1,235) = 22.69$, $MSe = 2.50$, $p < .01$, and encouraged, $F(1,235) = 31.59$, $MSe = 2.56$, $p < .01$, with the high expressive teacher eliciting more pride and encouragement than the low expressive instructor.

In sum, the attribution induction affected achievement only when instruction was ineffective and only for students who had previously been successful. Consistent with previous research (Perry & Magnusson, 1989), no differences emerged between attribution groups when teaching was effective. Furthermore, attributions and emotions were generally not influenced by the attribution induction, with one exception: With effective teaching, successful students who received effort attribution thought they had more ability than those in the test difficulty condition.

Discussion

Traditionally, attributional retraining programs have taken the form of structured, therapy-like interventions, administered outside the classroom (Forsterling, 1985). It may be useful, however, to consider attributional retraining as part of regular classroom teaching activities. As such, an instructor may communicate desirable attributions concerning tests or assignments to students. In the present study, students were provided with attributions about their performance on a test and the effect of this attribution induction on a subsequent achievement test was assessed. The results indicate that providing attributional information can have beneficial effects on students' achievement, particularly when teaching is ineffective.

Ineffective Instruction

When instruction was ineffective, effort attributions enhanced performance, relative to ability attributions, but only for students who perceived themselves as successful on the aptitude test. Attributions did not affect individuals in the low success group, whose performance was uniformly inferior to that of high success students. This pattern of results is contrary to our hypothesis that effort attributions would facilitate performance for low, but not high success students.

According to Weiner's (1986) theory, both effort and ability attributions for failure are expected to reduce self-esteem, but effort, an unstable cause, should maintain or enhance expectations for success in the future. As a result, these students should be sufficiently motivated to

increase their achievement striving. Students attributional and affective profile after the aptitude test may account for why this was not the case. Students who received effort attributions felt they had somewhat more ability than individuals in the ability condition, and also thought they had not tried very hard to answer the questions. In addition, the less successful students who received effort attributions felt more proud about their performance than ability subjects. Thus, it appears that effort attributions were more likely to maintain self-esteem than ability ascriptions and, as a result, students may not have been sufficiently motivated to increase their effort. In effect, these students may be thinking: "I didn't do well because I didn't try very hard, but if I wanted to, I could do better". Such confidence in future success can be maladaptive if the student is put into a situation which requires some extra effort, as in the case of poor instruction. This interpretation is consistent with Perry and Magnusson's (1989) analysis as to why effort attributions did not enhance performance of students who accurately perceived their performance as a failure.

In contrast, highly successful students who were given effort attributions were more discouraged than those in the ability group. Thus, although these students were successful on the aptitude test, they were not entirely pleased with their performance. Negative affect, coupled with a sense of having the ability to do well, might have motivated students to try especially hard to succeed in the future, resulting in improved performance.

Surprisingly, despite their previous perception of success, students in the ability condition performed as poorly as the low success groups. Based

on Weiner's (1986) attribution theory, one might have expected continued success for these individuals. As Perry and Magnusson(1989) pointed out, however, explaining success in terms of ability may decrease achievement striving precisely because self-esteem is not threatened and students expect to succeed in the future. These students may not try hard enough to succeed, thinking "I know I will do well on the test, because I'm smart. So I don't have to work very hard". When exposed to poor teaching, which requires more work on the part of the student, such reasoning may have detrimental consequences.

Of interest is the pattern of findings for the test difficulty information. After the aptitude test, these students felt they had somewhat less ability and had tried harder than the other groups. Such cognitions might be expected to be quite demotivating. However, test difficulty attributions enhanced performance for students who perceived themselves as successful, although it should be noted that the difference between test difficulty and ability groups was not statistically significant. It seems that students receiving test difficulty information reasoned: "I did well on the aptitude test, but I really had to work hard. If I work hard enough for the second test, I will do well again". As a result, they may have expended the required effort during the lecture, leading to improved performance.

In sum, the results obtained indicate that communicating certain attributions can have beneficial effects when instruction is ineffective. Moreover, our results show that a single, written attribution induction is effective in enhancing academic achievement. Effort attributions, and to some extent test difficulty attributions, improved performance of

previously successful students. These individuals performed about equally well as those exposed to high expressive instruction, suggesting that effort attributions protected or buffered them against the demotivating consequences of ineffective instruction. As such, the study provides further support for the notion of buffer schemata, or explanatory schemata of achievement outcomes, which enable students to perform well despite ineffective teaching (Perry et al., 1991).

Effective Instruction

When teaching was effective, students performed well regardless of the attributions induced, suggesting that effective instruction can compensate for potentially maladaptive causal attributions. Although the attribution information did not affect students' performance, it did influence perceptions of ability. Students who received effort information and considered themselves successful, thought they had more ability than those in the test difficulty group. Combined with the results for low expressive instruction, it therefore appears that communicating effort attributions produces the most beneficial cognitive, affective, and behavioral effects.

Consistent with previous research (e.g., Perry & Dickens, 1984; Perry & Magnusson, 1987), high expressive instruction had positive cognitive and affective consequences. Students exposed to high expressive instruction thought they had more ability and had tried harder those in the low expressive condition. High expressive instruction further enhanced feelings of pride and encouragement.

Conclusion

Perry and Penner (1990) pointed to the usefulness of single, brief attributional retraining interventions for large scale remediation at the postsecondary level. The present study indicates that communicating causal ascriptions can have a beneficial influence on students' subsequent academic achievement. This strategy appears particularly useful since it can be readily incorporated into regular classroom interaction. Telling students to attribute their performance to effort appears to have the most beneficial consequences, at least for successful students, regardless of quality of instruction. In contrast, communicating ability attributions is less desirable, since it can lead to poor performance in successful students who are confronted with poor teaching. The present study further demonstrates the limitations of this attributional retraining strategy. Students who perceived themselves as failing did not benefit from the attribution information when instruction was ineffective. Such individuals may require more intense interventions, such as more structured attributional retraining programs.

REFERENCES

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist, 37, 122-147.

Feldman, K. A. (1989). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. Research in Higher Education, 30, 583-645.

Forsterling, F. (1985). Attributional retraining: A review. Psychological Bulletin, 98, 495-512.

Jesse, D.M., & Gregory, W. L. (1986-87). A comparison of three atttributions approaches to maintaining first year college GPA. Educational Research Quarterly, 11, 12-25.

Murray, H. G. (1991). Teaching effectiveness in higher education. In J. Smart (Ed.), Higher education: Handbook of theory and research (Vol. 7). New York: Agathon Press.

Perry, R. P. (1991). Perceived control in college students: Implications for instruction in higher education. In J. Smart (Ed.), Higher education: Handbook of theory and research (Vol. 7). New York: Agathon Press.

Perry, R. P., & Dickens, W. J. (1984). Perceived control in the college classroom: The effect of response outcome contingency training and instructor expressiveness on students' attributions and achievement. Journal of Educational Psychology, 76, 966-981.

Perry, R. P., Hechter, F. J., Menec, V. H., & Weinberg, L. (1992). A review of achievement motivation and performance in college students from an attributional retraining perspective. Occasional Monograph Series, (Vol 1). Winnipeg: University of Manitoba, Centre for Higher Education Research and Development.

Perry, R. P., & Magnusson, J.(1987). Effective instruction and students' perceptions of control in the college classroom: Multiple lectures effects. Journal of Educational Psychology, 79, 453-460.

Perry, R. P., Magnusson, J., Schonwetter, D. J., & Struthers, C. W. (1991). Students' explanatory schemata and the quality of college instruction: Some evidence for buffer and compensation effects. Manuscript submitted for publication.

Perry, R. P., & Penner, K. S. (1990). Enhancing academic achievement in college students through attributional retraining and instruction. Journal of Educational Psychology, 82, 262-271.

Reid. M. K., & Borkowski, J. G. (1987). Causal attributions of hyperactive children: Implications for teaching strategies and self-control. Journal of Educational Psychology, 79, 296-307.

Van Overwalle, F., & De Metsenaere, M. (1990). The effect of attribution-based intervention and study strategy training on academic achievement in college freshman. British Journal of Educational Psychology, 60, 299-311.

Van Overwalle, F., Segebarth, K., & Goldchstein, M. (1989). Improving performance of freshmen through attributional testimonies from fellow students. British Journal of Educational Psychology, 59, 75-85.

Wilson. T. D., & Linville, P. W. (1982). Improving the academic performance of college freshmen: Attribution therapy revisited. Journal of Personality and Social Psychology, 42, 367-376.

Wilson. T. D., & Linville, P. W. (1985). Improving the performance of college freshmen with attributional techniques. Journal of Personality and Social Psychology, 49, 287-293.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. Psychological Review, 92, 548-573.

Weiner, B. (1986). An attributional theory of motivation and emotion. New York: Springer.

Table 1
Aptitude Test Measures

		Effort		Ability		Test Difficulty	
		Low	High	Low	High	Low	High
Measures							
Ability[1]	M	5.00	6.39	4.28	6.36	4.40	6.12
	SD	1.90	1.17	1.19	0.98	1.78	1.27
Effort[2]	M	5.42	6.68	5.77	6.71	6.58	7.28
	SD	1.84	1.55	1.58	1.60	1.50	1.46
	n	38	56	39	42	38	50
Proud[3]	M	3.34	5.32	2.34	5.62	3.00	5.74
	SD	1.46	1.34	1.55	1.08	1.55	1.32
Encouraged[4]	M	3.71	5.39	3.16	6.19	3.81	5.80
	SD	1.78	1.37	1.69	1.33	1.68	1.41
	n	38	56	38	42	37	49

Note: Low = low success; High = high success. [1] "How much ability do you have for this kind of test?" (0 = none at all; 9 = a great deal). [2] "How hard did you try to answer the questions on this test? (0 = did not try at all; 9 = tried my hardest). [3] 0 = ashamed, 9 = proud; [4] 0 = discouraged, 9 = encouraged.

Table 2
Post Lecture Achievement Test Measures

		Effort		Ability		Test Difficulty	
		Low	High	Low	High	Low	High
		Low Expressive Instruction					
Measures							
Achievement[1]	M	14.89	18.07	15.38	14.85	14.33	17.13
	SD	3.97	3.55	3.61	4.04	3.94	3.87
	n	18	27	16	20	21	24
Ability[2]	M	6.00	5.96	6.25	5.60	5.43	6.13
	SD	1.75	1.83	1.53	0.88	1.86	1.79
	n	18	27	16	20	21	23
Effort[3]	M	5.44	5.22	4.81	5.70	5.57	5.46
	SD	2.38	2.33	2.26	2.45	2.16	2.00
	n	18	27	16	20	21	24
Proud[4]	M	4.31	4.59	4.50	4.53	4.44	4.64
	SD	1.66	1.37	1.41	1.47	1.25	1.92
Encouraged[5]	M	4.56	3.85	4.50	4.79	4.22	4.00
	SD	1.86	1.75	1.59	1.87	1.67	1.88
	n	16	22	16	19	18	22

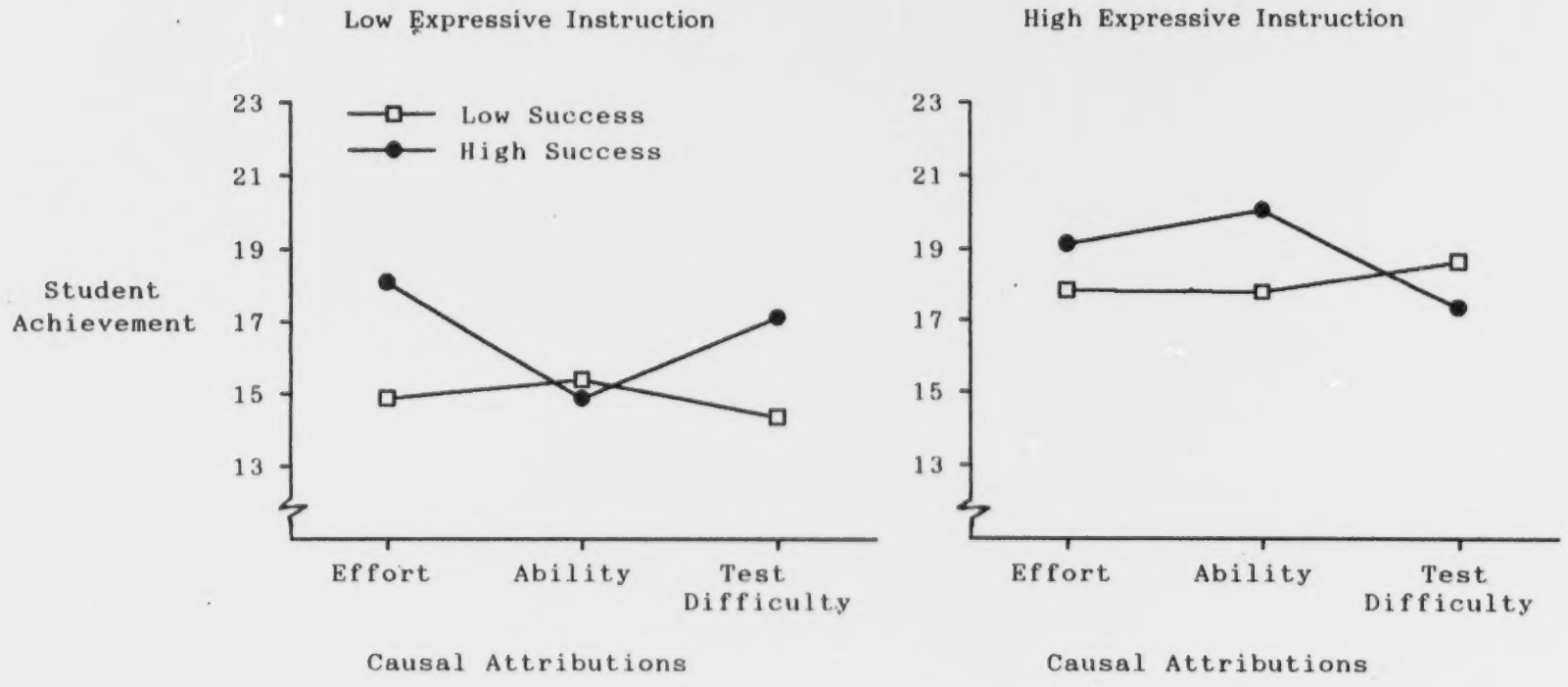
Table 2 (continued)

		Effort		Ability		Test Difficulty	
		Low	High	Low	High	Low	High
		High Expressive Instruction					
Measures							
Achievement	M	17.85	19.14	17.78	20.00	18.59	17.31
	SD	5.00	4.14	3.10	3.72	4.21	3.94
	n	20	29	23	22	17	26
Ability	M	6.15	6.97	6.57	6.27	6.41	5.73
	SD	1.98	1.09	1.56	1.24	1.42	1.73
Effort	M	6.05	7.00	6.44	6.55	6.18	6.08
	SD	2.44	1.28	1.97	1.37	1.94	1.70
	n	20	29	23	22	17	26
Proud	M	5.44	5.96	5.14	5.90	5.29	5.13
	SD	1.76	1.71	1.75	1.12	1.57	1.70
Encouraged	M	5.28	5.79	5.00	5.75	5.77	5.33
	SD	1.27	1.48	1.72	1.07	1.39	1.44
	n	18	28	22	20	17	24

Note: Low = low success; High = high success. [1] The achievement test range was 0-30. [2] "How much ability do you have for this kind of test?" (0 = none at all; 9 = a great deal). [3] "How hard did you try to answer the questions on this test? (0 = did not try at all; 9 = tried my hardest). [4] 0 = ashamed, 9 = proud; [5] 0 = discouraged, 9 = encouraged.

Figure Caption

Figure 1: The effects of attribution information on students' achievement for low (left panel) and high (right panel) expressive instruction.


Low Expressive Instruction
High Expressive Instruction
Low Success
High Success
Student Achievement
23
21
19
17
15
13
Effort
Ability
Test Difficulty
Causal Attributions